



DATE: October 23, 1990 Date of Inspection: September 5, 1990  
TO: Sy Levine Last Insp. Date: September 29, 1989  
FROM: Cezary Krzymowski *CK* Region/District: 105  
Facility: LTV Steel Corp. I.D. #: 031 600 AMC  
Address: 116th & Burley Ave., Chicago 60617  
Contact/Title: Mike Thomas/Envir.Coord. Phone: 312/933-4522

### 1.0 Product-Process Description

The facility is an integrated steel mill which produces steel in two Q-BOP furnaces and three electric arc furnaces. Iron for the Q-BOP's is produced in one blast furnace and coke for the blast furnace is produced at the coke and associated by-products plant. They operate several rolling mills which produce bars and a wire mill. All sources except for the coke and by-products plant, the 11 inch mill and the boiler plant are not in operation and on indefinite shutdown status due to economic conditions.

### 2.0 Purpose of Inspection

01/05/90

CIL - Failure to secure a waiver from the benzene NESHAP's regulations - resolved.

09/29/89 & 12/7/88

Workplan

8/11/88

Meeting with Coke Plant Superintendent

7/29/88

Inspection

2/16/88

PM10 Project and Workplan.

3/5/87

10/22 & 27/87

The coke plant was inspected according to the workplan.

EPA Region 5 Records Ctr.



307756

## 2.1 Compliance History

6/30/89

Completion of door and jamb replacement program.

2/16/88 & 3/5/87

The doors were in violation. A consent decree was negotiated with USEPA and they are now on a door and jamb replacement program.

## 2.2 Observations-Discussion Related to Inspection

September 5, 1990

Mr. Mike Thomas and Rich Somers escorted the author, Emilio Salis, Gopi Ramanath, and Joe Kotas on the inspection. Doors, lids, standpipes, charging and pushing were inspected. The doors with visible emissions on the coke side were zero and on the push side were two, in compliance with their 5% total or 6 doors allowable per permit condition number 5. Zero lids were observed leaking which was in compliance with their 2% total or 5 allowable per permit condition number 4. Two standpipes were observed leaking which was in compliance with their 5% total or 3 allowable per permit condition number 3. Charging was observed and timed for duration of visible emissions over five consecutive charges. The total number of visible emissions from each of ovens 24, 26, 28, 30 and 32 was 6.29, 2.10, 14.29, 5.04 and 3.40 seconds respectively or 31.12 seconds in compliance with the 55 seconds total allowed. The average opacity of emissions from the charge scrubber for each oven was 0.25%, 3.5%, 0.75%, 1.00% and 0.25% respectively. Pushing average opacities for 4 consecutive pushes were 0.83%, 10.0%, 1.67% and 0.83% in compliance with the 20% average per Section 212.443(c)(1)(A). The baghouse push control opacities were 5.56%, 6.11%, 5.56% and 6.67% respectively for the four pushes in compliance with the 20% average per Section 212.443(c)(2)(B). The inspection checklists are attached. The combustion stack was clean. The light oil liquid service component log book was found to be in order. Quench tower make-up water samples were taken and sent out for analysis. They were pushing 87 ovens per day with a 16 hr coking time.

The 250,000 lb/hr B & W boiler subject to NSPS was observed emitting zero opacity from the stack in compliance with the NSPS of 20%.

Mr. Thomas stated that satisfactory progress on the consent decree with the USEPA regarding a door replacement program utilizing the new "Saturn" doors was made and they have completed this program. A jamb reconstruction program has also been completed and a door leak inspection was conducted by USEPA pursuant to the consent decree which showed compliance.

The benzene NESHAP inspection program is being implemented and reports are being submitted on time. The door inspection program pursuant to their 1989 USEPA Consent Decree is being implemented and quarterly reports are being submitted on time pursuant to the self monitoring provision. They are required to meet the same PSD provision of "no VE's from more than 5% of the doors on the coke battery" according to Exhibit 3 of the Decree. The compliance protocol of Exhibit 3 must be followed on the inspection. The decree is in effect for two years.

## 2.2 Observations-Discussion Related to Inspection (continued)

September 29, 1989

Mr. Mike Thomas escorted the author, Rico Vallejera, Althea Ward and Emilio Salis on the inspection. Doors, lids, standpipes, charging and pushing were inspected. The doors with visible emissions on the coke side were three and on the push side were zero, in compliance with their 5% total or 6 doors allowable per permit condition number 5. Zero lids were observed leaking which was in compliance with their 2% total or 5 allowable per permit condition number 4. One standpipe was observed leaking which was in compliance with their 5% total or 3 allowable per permit condition number 3. Charging was observed and timed for duration of visible emissions over five consecutive charges. The total number of visible emissions from each of ovens 9, 11, 13, 15 and 17 was 34.23, 1.97, 0, 5.20 and 11.19 seconds respectively or 52.59 seconds in compliance with the 55 seconds total allowed. The average opacities of emissions from the charge scrubber for each oven was 7.05%, 8.16%, 17.06%, 13.67% and 15.31% respectively. Pushing average opacities for 4 consecutive pushes were 6.67%, 8.33%, 6.67% and 5.0% in compliance with the 20% average per Section 212.443(c)(1)(A). The baghouse push control opacities were 2.78%, 1%, 0% and 0% respectively for the four pushes in compliance with the 20% average per Section 212.443(c)(2)(B). The inspection checklists are attached. The combustion stack was clean. The light oil liquid service component log book was found to be in order. Quench tower make-up water samples were taken and sent out for analysis. They were pushing 87 ovens per day with a 16 hr coking time.

Mr. Thomas stated that satisfactory progress on the consent decree with the USEPA regarding a door replacement program utilizing the new "Saturn" doors was made and they have completed this program. A jamb reconstruction program has also been completed and a door leak inspection was conducted by USEPA pursuant to the consent decree which showed compliance.

December 7, 1988

Mr. Mike Thomas escorted the author and Rico Vallejera on the inspection. Doors, lids, standpipes, charging and pushing were inspected. The doors with visible emissions on the coke side and on the push side were zero, in compliance with their 5% total or 6 doors allowable per permit condition number 5. Zero lids were observed leaking which was in compliance with their 2% total or 5 allowable per permit condition number 4. Zero standpipes were observed leaking which was in compliance with their 5% total or 3 allowable per permit condition number 3. Charging was observed and timed for duration of visible emissions over five consecutive charges. The total number of visible emissions from each of ovens 20, 22, 24, 26 and 28 was zero. The average opacities of emissions from the charge scrubber for each

## 2.2 Observations-Discussion Related to Inspection (continued)

oven was 4.1%, 3.0%, 4.5%, 7.8% and 7.7% respectively. Pushing average opacities for 4 consecutive pushes were 28.3%, 5.0%, 0.8% and 10.8% in violation with the 20% average per Section 212.443(c)(1)(A). The baghouse push control opacities were 1.8%, 3.3%, 3.2% and 3.8% respectively for the four pushes in compliance with the 20% average per Section 212.443(c)(2)(B). The inspection checklists are attached. The combustion stack was clean. The light oil liquid service component log book was found to be in order. Quench tower make-up water samples were taken and sent out for analysis which showed compliance. They were pushing 90 ovens per day with a 16 hr coking time.

Mr. Thomas stated that satisfactory progress on the consent decree with the USEPA regarding a door replacement program utilizing the new "Saturn" doors was made and they have completed this program. A jamb reconstruction program is in progress and 72% of the jams are completed. A CIL will be sent for the pushing violation. The coke plant supt. stated that the oven in violation was just put back into service after repairs were made to the door. This may have caused the green push.

### August 11, 1988

A meeting was held with the coke plant superintendent Mr. Dan Hereda on 8/11/88 pursuant to receiving several complaints from area residents regarding smoke and odors from the coke plant and a smoldering fire debris on LTV property report from Ed Osowski during the week of 7/25/88. The fire was put out by the plant personnel according to a report from Mr. Rich Myers, Environmental Engineer. Only one signed complaint form has been received. The author went to investigate the complaints on 7/29/88 and took photographs from outside the plant. The photographs showed clouds of black and yellowish white smoke given off during various times from about 11:30am to 12:30pm from the top of the coke plant. The smoldering fires were put out. (See attached). A meeting was held on 8/11/88 with Mr. Dan Hereda, coke plant superintendent and Rick Myers, environmental engineer. Mr. Mike Thomas could not attend. Mr. Hereda was shown the photographs and stated that the yellow smoke was from the leaking jams which they are presently replacing under a consent decree with USEPA. The final version was not yet signed. The project is due for completion in June of 1989 but Mr. Hereda stated that they will probably finish in March of 1989 ahead of schedule. The author requested that all possible measures be taken to minimize emissions during the rebuild program. The jamb repacking program completed in October of 1987 failed due to more extensive damage uncovered because the original design called for low grade bolts to fasten a portion of the jamb and when these bolts stretched extensive damage occurred which called for the jamb rebuild program now underway. The author also asked for an availability report for the Ducon charging scrubber since it appears that one of the fans on the scrubber is failing too often as evidenced on this day that one of the fan bearings failed and only one fan was in operation. This creates a loss of

## 2.2 Observations-Discussion Related to Inspection (continued)

efficiency in the venturi and thus higher emissions both at the charge car and stack. There also have been no malfunction reports made to the Maywood office. Mr. Hereda agreed to furnish availability data and stated that they reported malfunctions to Chicago DCS and thought this was sufficient. They will now report to the Maywood office. Mr. Hereda was asked to look at their operating practices and concentrate on any way they can reduce emissions during the rebuild program. He also asked for copies of the photographs so that he could show his foremen during a meeting he will hold regarding this meeting. A letter confirming the results of this meeting is attached. A full inspection will be conducted in the near future.

### February 16, 1988

Mr. Mike Thomas escorted the author and Ed Osowski on the inspection. Doors, lids, standpipes, charging and pushing were inspected. The doors with visible emissions on the coke side were no.'s 1, 2, 11, 15, 19, 20, 21, 38, 42, 53, 56 and 59, and on the push side were no's 56, 54, and 27. A total of 15 doors leaked in violation with their 5% total or 6 doors allowable per permit condition number 5. All leaks were from door jams. Zero lids were observed leaking which was in compliance with their 2% total or 5 allowable per permit condition number 4. Zero standpipes were observed leaking which was in compliance with their 5% total or 3 allowable per permit condition number 3. Charging was not observed and timed for duration of visible emissions over five consecutive charges due to a malfunction of the scrubber control fan motor bearing. See attached malfunction notification letter dated 2/17/88. Pushing average opacities for 4 consecutive pushes were 9.2%, 49.2%, 20.8% and 20.0% in violation with the 20% average per Section 212.443(c)(1)(A). The baghouse push control opacities were 0% for the four pushes in compliance with the 20% average per Section 212.443(c)(2)(B). The inspection checklists are attached. The combustion stack was clean. The light oil liquid service component log book was found to be in order. Four primary light oil tank "C" valves were found leaking on 11/9/87 and are scheduled for replacement as soon as new valves can be manufactured. The valves now leak sporadically since adjustments were made to the packing. Quench tower make-up water samples were taken and sent out for analysis. They were pushing 85 ovens per day. The water samples indicated compliance (see attached).

Mr. Thomas stated that satisfactory progress on the consent decree with the USEPA regarding a door replacement program utilizing the new "Saturn" doors was made and they have completed this program. A jamb reconstruction program is next.

### October 22 & 27, 1987

Mr. Mike Thomas escorted the author and Ed Osowski on the inspection. Doors, lids, standpipes, charging and pushing were inspected. The doors with visible emissions on the coke side were no. 33, and on the push side were no's 47, 45, 41 and 43. A total of 5 doors leaked in compliance with their 5% total or 6 doors allowable per permit condition number 5. Zero lids were observed leaking which was in compliance with their 2% total or 5 allowable per permit condition number 4. Zero standpipes were observed leaking which was in compliance with their 5% total or 3 allowable per permit condition number 3. Charging was observed and timed for duration of visible emissions over five consecutive charges.

## 2.2 Observations-Discussion Related to Inspection (continued)

The total number of seconds of visible emissions over five consecutive charges was 9.2 seconds with an allowable of 55 seconds per condition number 1 of their operating permit. The average opacities of emissions from the scrubber controlling charging for each of the five charges was 6.4%, 6.0%, 14.3%, 10.0% and 8.2% in compliance with the 20% average per Section 212.443(b)(2). Pushing average opacities for 4 consecutive pushes were 14.2%, 19.2%, 15.8% and 19.2% in compliance with the 20% average per Section 212.443(c)(1)(A). The baghouse push control opacities were 0% for the four pushes in compliance with the 20% average per Section 212.443(c)(2)(B). The inspection checklists are attached. The combustion stack was clean. The light oil liquid service component log book was found to be in order. Quench tower make-up water samples were taken and sent out for analysis. They were pushing 85 ovens per day.

Mr. Thomas stated that satisfactory progress on the consent decree with the USEPA regarding a door replacement program utilizing the new "Saturn" doors is being made and they have 25 more doors on the push side to install. A jamb reconstruction program is next. Charging emissions were read on 10/27/87 because the charge scrubber fan coupling had sheared just before the inspection on 10/22/87 and only one fan was in operation resulting in scrubber stack opacities of over 60%. The coupling was replaced and the fan put back into service later that day. A malfunction notice letter is being prepared.

### March 5, 1987

Mr. Mike Thomas escorted the author and Ed Osowski on the inspection. Doors, lids, standpipes, charging and pushing were inspected. The doors with visible emissions on the coke side were no's 4,7,8,10,14,33,41,57 and on the push side were no's 18,17,16,10 and 8. A total of 13 doors leaked in violation of their 5% total or 6 doors permit condition number 5. Two lids were observed leaking which was in compliance with their 2% total or 5 allowable per permit condition number 4. Zero standpipes were observed leaking which was in compliance with their 5% total or 3 allowable per permit condition number 3. Charging was observed and timed for duration of visible emissions over five consecutive charges. The total number of seconds of visible emissions over five consecutive charges was 2.63 seconds with an allowable of 55 seconds per condition number of their operating permit. The average opacities of emissions from the scrubber controlling charging for each of the five charges was 18.9%, 12.7%, 14.6%, 10.9% and 7.8% in compliance with the 20% average per Section 212.442(b)(2). Pushing average opacities for 4 consecutive pushes were 10.8%, 13.3%, 14.2% and 18.3% in compliance with the 20% average per Section 212.443(c)(1)(A). The baghouse push control opacities were 0% for the four pushes in compliance with the 20% average per Section 212.443(c)(2)(B). The inspection checklists are attached. The combustion stack was clean. The light oil liquid service component log book was found to be in order. Quench tower make-up water samples were taken and sent out for analysis. They were pushing 78 ovens per day. per day.

Mr. Thomas stated that they are in the process of signing a consent decree with the USEPA regarding a door replacement program which will utilize the new "Saturn" doors. A copy of the compliance program is attached.

## 2.3 Summary of Meetings

See 2.2

## 2.4 Telephone Call Reports

Reports of malfunctions are now being made followed up by letter and are in the malfunction file.

## 3.0 Emission Source

Identification [Coke and By-Products Plant/Permit #81090054]

### 3.01 Applicable Regulation

Section 212.443: Coke plant door, lid, standpipe, charging and pushing standards.

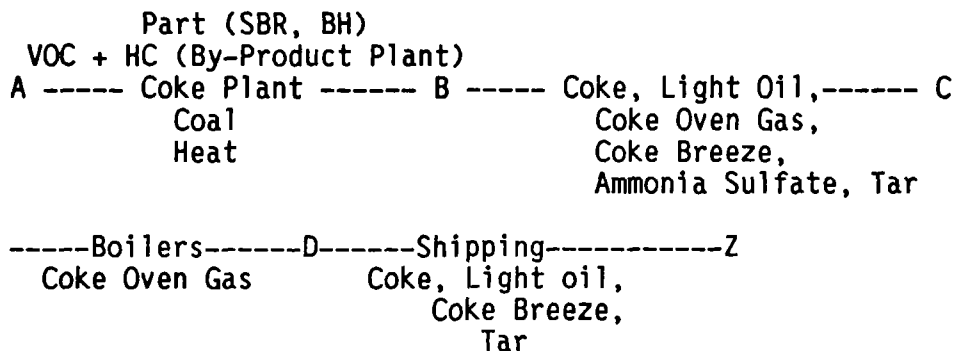
Section 215.510: Coke by-product plant VOC source control standards.

Sections 215.512, 215.513, 215.514, 215.515: Coke by-product plant light oil in liquid service component leak standards.

40 CFR Part 61 Subpart L - Coke by-products benzene NESHAP.

Consent Decree 1989 - Door inspection program quarterly reports.

### 3.02 Process Flow Diagram



## 3.1 Emission Source Identification

[NSPS - 250,000 lb/hr B & W Boiler]

### 3.11 Applicable Regulation/Effective Date

40 CFR 60 Subparts A & O

### 3.12 Process Flow Diagram

N/A

### 3.2 Emission Source Identification [See Below]

The following smaller sources are presently in operation with emissions as stated in the TAS:

Permit No.	Granted	Source Name	Expires	8 hr turns/week
73031527	4/11/83	3 main boilers, 100,000 lb/hr ea	12/14/92	
73031528	4/18/83	2 bar coil annealing furnaces	12/14/92	12-15 turns/wk
73031684	4/11/83	11 inch mill reheat furnace	2/10/93	12-15 turns/wk
73031677	4/11/83	11 inch mill Wheelabrator grit blaster	12/14/92	12-15 turns/wk
73031678	4/11/83	1 inch mill #2 grinder & dust collector	12/14/92	12-15 turns/wk
73031679	4/11/83	11 inch mill billet conditioning facility	2/15/93	12-15 turns/wk
73060122	2/23/88	B & W 250,000 lb/hr steam boiler NSPS	2/18/93	
75120004	4/30/87	Storage tanks	4/27/92	12-15 turns/wk
75120060	10/27/89	Storage tanks	10/15/92	12-15 turns/wk
75120063	10/22/87	Oil Storage Tanks	10/15/92	12-15 turns/wk
80070006	5/04/87	Wire mill H <sub>2</sub> SO <sub>4</sub> north line	4/28/92	12-15 turns/wk
80070007	5/04/87	Wire mill H <sub>2</sub> SO <sub>4</sub> south line	4/28/92	12-15 turns/wk
73070215	4/11/83	B & W 125000 lb/hr boiler	2/18/93	

#### 3.11 Applicable Regulations

#### 3.12 Process Flow Diagram

### 4.0 Permit Status

	Grant	Expires
81090054 Coke and Coke By-Products Plant	06/18/90	09/14/91

Coke plant reapplication on 1/20/87 was denied due to a pending appeal with PCB 86-43. LTV appealed this denial and the PCB consolidated both appeals. There is a stay now in effect due to the appeal. This appeal was dropped. The Permit #81090054 was granted on 6/18/90.

March 5, 1987

Coke Plant permit #81090054 expired on 2/28/87. CIL sent 3/12/87.

#### 4.1 Standard Conditions

Complied with standard conditions.

#### 4.2 Special Conditions

9/5/90 & 9/29/89

In compliance all sources (see attached).

12/7/88 & 2/16/88

In violation of Condition #6 Pushing limitations Section 212.443(c).



#### 4.3 New Source Review

N/A

#### 5.0 Fugitive Dust Program

In compliance. Program accepted 1/1/83. No emissions observed.

#### 6.0 Opacity Observations

9/5/90 & 9/29/89

In compliance

12/7/88 & 2/16/88

Violation of Section 212.443(c) - Coke Pushing. See attached forms.

#### 6.1 Visible Emission Observations

9/5/90 & 9/29/89

In compliance

2/16/88 & 3/5/87

Violation of emissions from coke oven door jams but facility is on a USEPA Consent Decree which is being followed in compliance.

#### 7.0 Emission Calculations

Coke and by-products plant

81090054-001	Coal handling	Actual	1.38 lb/hr
		Allowable	32.0 lb/hr
81090054-002	Coal handling	Actual	3.50 lb/hr
		Allowable	25.5 lb/hr
81090054-003	Charging	Actual	1.84 lb/hr
		Allowable	3.00 lb/hr
81090054-004	Pushing	Actual	0.51 lb/hr
		Allowable	5.8 lb/hr
81090054-005	Quenching	Actual	115.2 lb/hr
		Allowable	115.2 lb/hr
81090054-006	Doors	Actual	2.88 lb/hr
		Allowable	2.9 lb/hr
81090054-007	Combustion Stack	Actual	6.8 lb/hr
		Allowable	28.9 lb/hr

#### 7.1 Part 215 Organic Material Emission Calculations and Standards

See EIS.

#### 8.0 Equipment Standards

N/A

**9.0 NSPS**

Q-BOP is NSPS but it is indefinitely shut down and was in compliance before shutdown.

73060122 Boiler is NSPS and was in compliance.

**10.0 NESHAP**

Coke by-products plant benzene emissions and inspections. In compliance.

**11.0 Stack Tests**

None conducted recently.

**11.1 Total Annual Plant Emissions (T/Y) Various Pollutants**

Part	1639.81
SO <sub>2</sub>	396.63
NO <sub>x</sub>	60.57
HC	1194.00
CO	318.84

**12.0 Section 9(a) Factors**

No complaints received recently.

**13.0 Multi-Media Factors**

DWPC and DLPC have responsibilities at the plant.

**13.1 Chemical Safety**

No inspection conducted.

**14.0 Attainment/Non Attainment/Geographical Description**

Non attainment for ozone and particulates and located in a heavy industrial area with residences across the street to the north, east and west.

**15.0 Findings/Conclusions/Recommendations**

September 5, 1990  
The facility is in compliance.

September 29, 1989  
The facility is in compliance.

15.0 Findings/Conclusions/Recommendations (continued)

December 7, 1988

The facility is in violation of special permit condition #6 and Section 212.443(c) - pushing limitations. A CIL will be sent.

August 11, 1988

The facility is in compliance. No formal readings of visible emissions were taken at this time but a complete inspection will be conducted in the near future.

February 16, 1988

The facility is in violation of the coke pushing regulations, Section 212.443(c). A CIL will be sent for this violation.

October 22 & 27, 1987

The facility is in compliance with the Regulations and permit conditions. A stay order is in effect with the PCB regarding the denial of the permit.

March 5, 1987

The facility is in violation of special coke plant permit condition no. 5-(door emissions) and for failure to renew their coke plant operating permit. A consent decree is being negotiated with USEPA and LTV regarding the door program. A CIL was sent and further recommendation will be made when a response is received.

CK:dfa:0748L

cc: M. Zamco  
File  
Attachments



Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

(For Internal Use Only)

Date of Inspection: September 5, 1990I.D.#: 031 600 AMCR/D: 105Facility: LTV Steel CorporationAddress: 116th & Burley Avenue, Chicago, IL 60617Contact/Title: Mike ThomasPhone: 312/933-4522PRE-INVESTIGATION STATUS:

<input checked="" type="checkbox"/> Workplan	<input type="checkbox"/> (A) Task Force	<input type="checkbox"/> (R) Random/Non-Traditional
<input type="checkbox"/> Quarterly Report	<input type="checkbox"/> (B) On Program	<input type="checkbox"/> (S) HC Chicago/St. Louis
<input type="checkbox"/> MIR	<input type="checkbox"/> (C) Violator	<input type="checkbox"/> (T) TSP Chicago/St. Louis
<input type="checkbox"/> Other	<input type="checkbox"/> (D) NESHAPS	<input checked="" type="checkbox"/> (U) A-1
	<input type="checkbox"/> (F) NSPS	<input type="checkbox"/> (V) B Facility
	<input type="checkbox"/> (I) A-2	<input type="checkbox"/> (W) Multi-Media Problems
	<input type="checkbox"/> (J) Special Request	<input type="checkbox"/> (X) Service Station
	<input type="checkbox"/> (M) Asbestos D/R	<input type="checkbox"/> (Z) Petrochemical Plant

INSPECTION FINDINGS:

<input type="checkbox"/> Emission Violation	<input type="checkbox"/> CIL	<input checked="" type="checkbox"/> TAS Checked
<input type="checkbox"/> Permit Violation	<input type="checkbox"/> To MIR	<input type="checkbox"/> TAS Coded
<input type="checkbox"/> Permit Condition Violation	<input type="checkbox"/> To Quarterly Report	<input checked="" type="checkbox"/> Form 177
<input checked="" type="checkbox"/> NO VIOLATION	<input type="checkbox"/> Multi-Media Issue Possible	<input type="checkbox"/> Compliance Flow
<input type="checkbox"/> Flag File	<input type="checkbox"/> Land <input type="checkbox"/> Noise <input type="checkbox"/> Water	<input type="checkbox"/> Malfunction
		<input type="checkbox"/> Copy to Facility
		<input type="checkbox"/> Frequency Change

IL532-1244

APC 421 6/87

Purpose of Inspection:

01/05/90

CIL - Failure to secure a waiver from the benzene NESHAP's regulations - resolved.

09/29/89 &amp; 12/7/88

Workplan

8/11/88

Meeting with Coke Plant Superintendent

7/29/88

Inspection

2/16/88

PM10 Project and Workplan.

3/5/87

10/22 &amp; 27/87

The coke plant was inspected according to the workplan.